

ABSTRACT OF THE DISCLOSURE

A wireless device is provided with a wireless transceiver having a joint signal transmit/receive section, and a number of signal up/down conversion sections to
5 transmit and receive signals wirelessly in accordance with a first and a second protocol. The wireless device is further provided with a controller/signal processing section to control and perform, in a coordinated manner, the transmit and receive operations in accordance with the two protocols. In various embodiments, the wireless device is further provided with a processor programmed to implement a
10 time sharing schedule to facilitate the coordinated control and performance of the transmit and receive operations. In some of these embodiments, the processor is further programmed to monitor the transmit and receive workloads of the two protocols and adaptively perform the coordinated control and signal processing, based at least in part on the observed workloads. In various embodiments, the
15 protocols may be selected pairs of Bluetooth, 802.11, 802.11a, 802.11b, Home RF and the like. The wireless device may also be used as a master device or a gateway device of two wireless networks.